# ATTACHMENT A

# EQUIPMENT USED IN HISTORICAL MAINTENANCE PRACTICES

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# EQUIPMENT USED IN HISTORICAL MAINTENANCE PRACTICES

PHOTO 1:  SUPER TEN DUMP TRUCK

PHOTO 2:  RUBBER TIRE LOADER

# EQUIPMENT USED IN HISTORICAL MAINTENANCE PRACTICES

PHOTO 3:  TRACK DOZER

# ATTACHMENT B

# EQUIPMENT USED IN MAINTENANCE METHODOLOGY PILOT PROJECT (MMPP)

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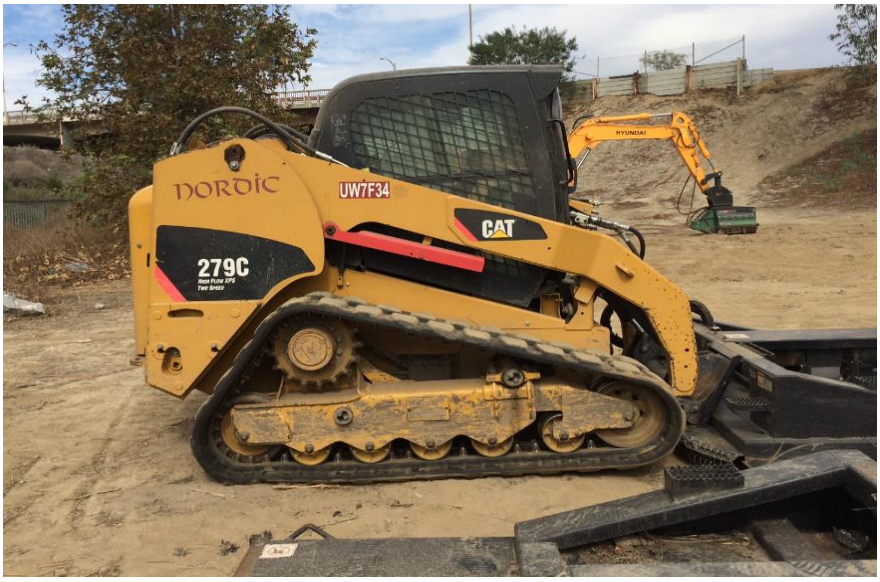
# EQUIPMENT USED IN MMPP

PHOTO 1: RUBBER TRACK EXCAVATOR WITH FLAIL MOWER


PHOTO 2: SKIDSTEER WITH MOWER



# EQUIPMENT USED IN MMPP

PHOTO 3: EXCAVATOR WITH BUCKET & GRAPPLE

# ATTACHMENT C

# DURING MMPP CLEARING PHOTOS

# SBC REACHES 24 AND 25

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# DURING MMPP CLEARING PHOTOS
# FOR SBC REACH 24, COMPTON CREEK

PHOTO 1: SKIDSTEER WITH MOWER

PHOTO 2: SKIDSTEER WITH MOWER

# DURING MMPP CLEARING PHOTOS
# FOR SBC REACH 24, COMPTON CREEK

PHOTO 3: EXCAVATOR WITH FLAIL MOWER

# DURING MMPP CLEARING PHOTOS
# FOR SBC REACH 25, LOWER LA RIVER

PHOTO 1: SKID STEER WITH MOWER


PHOTO 2: SKID STEER WITH MOWER AND DUMP TRUCK

# DURING MMPP CLEARING PHOTOS
# FOR SBC REACH 25, LOWER LA RIVER

PHOTO 3: EXCAVATOR WITH FLAIL MOWER

**DURING MMPP CLEARING PHOTOS**
**FOR SBC REACH 25, LOWER LA RIVER**

PHOTO 4: GENERAL VIEW OF CLEARING ACTIVITIES

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# ATTACHMENT D

# WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS FOR

# 2014 AND 2015

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# Compton Creek - Soft-Bottom Channels
## Feasibility Studies Technical Assessments and Recommendations
## WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2014)

| Reach No. and Name | DATE | Sampling Parameters | Sample Location | | | COMMENT |
|---|---|---|---|---|---|---|
| | | | Upstream of Project | Within Project | Downstream of Project | |
| Reach 24 Compton Creek | 10/9/2014 | TIME | 908 | 931 | 950 | **Baseline/Pre-Work** |
| | | SAMPLE NO. | CCRK/R24-1 | CCRK/R24-2 | CCRK/R24-3 | Arrived on site about 0900 to perform pre-work baseline monitoring and sampling at upstream, internal, and downstream sampling points; sampling points at same locations as 2013; from a water quality standpoint, project is "good to go' for proposed start on Friday, 10/10; notified personnel via e-mail at FMD Imperial Yard. |
| | | TEMP (°C) | 23.58 | 20.71 | 21.04 | |
| | | pH | 9.11 | 7.49 | 7.48 | |
| | | Turbidity (NTUs) | 3.18 | 7.60 | 10.16 | |
| | | Dissolved O2 (mg/L) | 9.70 | 1.26 | 0.40 | |
| | | Total Suspended Solids (mg/L) | 5.0 | 2.0 | 3.0 | |
| Reach 24 Compton Creek | 10/10/2014 | TIME | 922 | 952 | 1005 | **During Work** |
| | | SAMPLE NO. | CCRK/R24-1 | CCRK/R24-2 | CCRK/R24-3 | Arrived on site about 0915; 1st day of field operations; contractor's crew working with hand tools near upstream sampling point; strong H2S odor at internal sampling point; slight at downstream sampling point; *** BMP not installed at downstream sampling point and caused high turbidity downstream.** Possibly due to increased flow, source ?; results and findings sent via e-mail to Crew Leader Darryl Brown of FMD Imperial Yard. |
| | | TEMP (°C) | 23.25 | 20.97 | 22.18 | |
| | | pH | 9.10 | 7.61 | 7.50 | |
| | | Turbidity (NTUs) | 3.20 | 5.17 | *14.3 | |
| | | Dissolved O2 (mg/L) | 9.25 | 0.22 | 0.00 | |
| | | Total Suspended Solids (mg/L) | 11.0 | 6.4 | 2.0 | |

# Compton Creek - Soft-Bottom Channels
## Feasibility Studies Technical Assessments and Recommendations
## WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2014)

| Reach No. and Name | DATE | Sampling Parameters | Sample Location | | | COMMENT |
|---|---|---|---|---|---|---|
| | | | Upstream of Project | Within Project | Downstream of Project | |
| Reach 24 Compton Creek | 10/14/2014 | TIME | 1018 | 1039 | 1053 | **During Work** |
| | | SAMPLE NO. | CCRK/R24-1 | CCRK/R24-2 | CCRK/R24-3 | Arrived on site about 1010; 2nd day of field operations; BMP consisting of 3 rows of sandbags installed below the d/s end of the SBC; upstream and downstream turbidity readings of 2.18 NTU and 2.64 NTU are both below the respective baseline turbidity readings of 3.18 NTU and 10.16 NTU; internal turbidity reading of 9.23 NTU is barely over 20% above the baseline turbidity reading of 7.60(+20% = 9.12 NTU); strong H2S odor at internal sampling point; contractor's crew working with hand tools removing vegetation along the base of the concrete-covered rock levee; crews are not in the water and have no influence on turbidity or water quality; results and findings sent via e-mail to Crew Leader Darryl Brown of FMD Imperial Yard. |
| | | TEMP (°C) | 25.38 | 21.96 | 24.09 | |
| | | pH | 9.04 | 7.58 | 8.33 | |
| | | Turbidity (NTUs) | 2.18 | 9.23 | 2.64 <BL | |
| | | Dissolved O2 (mg/L) | 7.88 | 1.69 | 8.11 | |
| | | Total Suspended Solids (mg/L) | 4.4 | 3.2 | 2.8 | |
| Reach 24 Compton Creek | 10/15/2014 | TIME | 940 | 959 | 1013 | **During Work** |
| | | SAMPLE NO. | CCRK/R24-1 | CCRK/R24-2 | CCRK/R24-3 | Arrived on site about 0930; 3rd day of field operations; upstream and downstream turbidity readings of 1.78 NTU and 1.80 NTU are both below the respective baseline turbidity readings of 3.18 NTU and 10.16 NTU; internal turbidity reading of 11.2 NTU is over 20% above the baseline turbidity reading of 7.60(+20% = 9.12 NTU); strong H2S odor at internal sampling point; contractor's crew working with hand tools removing vegetation along the base of the concrete-covered rock levee; crews are not in the water and have no influence on turbidity or water quality; results and findings sent via e-mail to Crew Leader Darryl Brown of FMD Imperial Yard. |
| | | TEMP (°C) | 23.18 | 21.62 | 26.05 | |
| | | pH | 9.35 | 7.58 | 8.74 | |
| | | Turbidity (NTUs) | 1.78 | 11.20 | 1.80 <BL | |
| | | Dissolved O2 (mg/L) | 9.37 | 1.42 | 8.77 | |
| | | Total Suspended Solids (mg/L) | 2.8 | 2.0 | 5.0 | |

# Compton Creek - Soft-Bottom Channels
## Feasibility Studies Technical Assessments and Recommendations
## WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2014)

| Reach No. and Name | DATE | Sampling Parameters | Sample Location | | | COMMENT |
|---|---|---|---|---|---|---|
| | | | Upstream of Project | Within Project | Downstream of Project | |
| Reach 24 Compton Creek | 10/16/2014 | TIME | 1247 | 1301 | 1314 | **During Work** |
| | | SAMPLE NO. | CCRK/R24-1 | CCRK/R24-2 | CCRK/R24-3 | Arrived on site about1240; 4th day of field operations; upstream and downstream turbidity readings of 2.17 NTU and 2.14 NTU are both below the respective baseline turbidity readings of 3.18 NTU and 10.16 NTU; internal turbidity reading of 8.83 NTU is within the acceptable 20% limit of the baseline turbidity reading of 7.60(+20% = 9.12 NTU); strong H2S odor at internal sampling point; contractor's crew working with hand tools removing vegetation along the base of the concrete-covered rock levee; crews are not in the water and have no influence on turbidity or water quality; results and findings sent via e-mail to Crew Leader Darryl Brown of FMD Imperial Yard. |
| | | TEMP (°C) | 28.46 | 22.64 | 26.99 | |
| | | pH | 9.98 | 7.78 | 9.54 | |
| | | Turbidity (NTUs) | 2.17 | 8.83 | 2.14 <BL | |
| | | Dissolved O2 (mg/L) | 11.63 | 2.20 | 8.39 | |
| | | Total Suspended Solids (mg/L) | 2.4 | 22.0 | 2.6 | |
| Reach 24 Compton Creek | 10/17/2014 | TIME | 946 | 1006 | 1025 | **During Work** |
| | | SAMPLE NO. | CCRK/R24-1 | CCRK/R24-2 | CCRK/R24-3 | Arrived on site about 0940; 5th day of field operations; upstream turbidity reading of 3.42 NTU is within the acceptable 20% limit of the baseline turbidity reading of 3.18(+20% = 3.82 NTU); internal and downstream turbidity readings of 5.97 NTU and 1.72 NTU are both below the respective baseline turbidity readings of 7.60 NTU and 10.16 NTU; strong H2S odor at internal sampling point; contractor's crew working with hand tools removing vegetation along the base of the concrete-covered rock levee; crews are not in the water and have no influence on turbidity or water quality; results and findings sent via e-mail to Crew Leader Darryl Brown of FMD Imperial Yard. |
| | | TEMP (°C) | 22.44 | 21.02 | 24.31 | |
| | | pH | 9.20 | 7.52 | 8.52 | |
| | | Turbidity (NTUs) | 3.42 | 5.97 | 1.72 <BL | |
| | | Dissolved O2 (mg/L) | 8.11 | 0.49 | 7.40 | |
| | | Total Suspended Solids (mg/L) | 6.4 | ND | 3.2 | |

# Compton Creek - Soft-Bottom Channels
## Feasibility Studies Technical Assessments and Recommendations
## WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2014)

| Reach No. and Name | DATE | Sampling Parameters | Sample Location | | | COMMENT |
|---|---|---|---|---|---|---|
| | | | Upstream of Project | Within Project | Downstream of Project | |
| Reach 24 Compton Creek | 10/20/2014 | TIME | 1037 | 1102 | 1117 | **During Work** |
| | | SAMPLE NO. | CCRK/R24-1 | CCRK/R24-2 | CCRK/R24-3 | Arrived on site about 1030; 6th day of field operations; end of daily monitoring and start of weekly monitoring; upstream and downstream turbidity readings of 3.17 NTU and 3.01 NTU are both below the respective baseline turbidity readings of 3.18 NTU and 10.16 NTU; internal turbidity reading of 7.83 NTU is within the acceptable 20% limit of the baseline turbidity reading of 7.60(+20% = 9.12 NTU); strong H2S odor at internal sampling point; contractor's crew working with hand tools removing vegetation along the base of the concrete-covered rock levee and equipment removing vegetation from banks; crews and equipment are not in the water and have no influence on turbidity or water quality; results and findings sent via e-mail to Crew Leader Darryl Brown of FMD Imperial Yard. |
| | | TEMP (°C) | 24.45 | 21.73 | 24.96 | |
| | | pH | 9.23 | 7.62 | 8.66 | |
| | | Turbidity (NTUs) | 3.17 | 7.83 | 3.01 <BL | |
| | | Dissolved O2 (mg/L) | 11.36 | 0.23 | 8.71 | |
| | | Total Suspended Solids (mg/L) | 3.2 | ND | ND | |
| Reach 24 Compton Creek | 10/27/2014 | TIME | 1056 | 1112 | 1126 | **During Work** |
| | | SAMPLE NO. | CCRK/R24-1 | CCRK/R24-2 | CCRK/R24-3 | Arrived on site about 1045; 2nd week of field operations; upstream turbidity reading of 3.59 NTU is within the acceptable 20% limit of the baseline turbidity reading of 3.18(+20% = 3.82 NTU); internal turbidity reading of 10.91 is over 20% above the baseline turbidity reading of 7.60(+20% = 9.12 NTU), and downstream turbidity reading of 3.23 NTU is below the baseline turbidity reading of 10.16 NTU; strong H2S odor at internal sampling point; increased flow at d/s sampling point, source?; contractor's crew working with hand tools along the base of the concrete-covered rock levee and equipment removing vegetation from banks; neither are in the water and have no influence on turbidity or water quality; results and findings sent via e-mail to Crew Leader Darryl Brown of FMD Imperial Yard. |
| | | TEMP (°C) | 26.13 | 22.31 | 24.24 | |
| | | pH | 8.94 | 7.38 | 7.52 | |
| | | Turbidity (NTUs) | 3.59 | 10.91 | 3.23 <BL | |
| | | Dissolved O2 (mg/L) | 11.56 | 0.56 | 5.28 | |
| | | Total Suspended Solids (mg/L) | 4.2 | 2.2 | 2.4 | |

# Compton Creek - Soft-Bottom Channels
## Feasibility Studies Technical Assessments and Recommendations
## WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2014)

| Reach No. and Name | DATE | Sampling Parameters | Sample Location | | | COMMENT |
|---|---|---|---|---|---|---|
| | | | Upstream of Project | Within Project | Downstream of Project | |
| Reach 24 Compton Creek | 11/12/2014 | TIME | 1405 | 1423 | 1436 | **Post-Work** |
| | | SAMPLE NO. | CCRK/R24-1 | CCRK/R24-2 | CCRK/R24-3 | Arrived on site about 1350 to perform post-work monitoring and sampling; last day of field operations was Friday, 10/31; all BMPs removed; very low flow at u/s sampling point; upstream and downstream turbidity readings of 2.57 NTU and 5.63 NTU are both below the respective baseline turbidity readings of 3.18 NTU and 10.16 NTU; internal turbidity reading of 10.91 is over 20% above the baseline turbidity reading of 7.60(+20% = 9.12 NTU); strong H2S odor at internal sampling point; water dark and murky at internal sampling point, sheen on water, source?; water less dark and murky at downstream sampling point with only slight H2S odor; notified personnel via e-mail at FMD Imperial Yard. |
| | | TEMP (°C) | 24.78 | 20.63 | 19.20 | |
| | | pH | 10.13 | 7.69 | 7.44 | |
| | | Turbidity (NTUs) | 2.57 | 10.91 | 5.63 <BL | |
| | | Dissolved O2 (mg/L) | 8.11 | 0.85 | 5.29 | |
| | | Total Suspended Solids (mg/L) | 7.6 | 5.2 | 5.0 | |

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## Compton Creek - Soft-Bottom Channels
## Feasibility Studies Technical Assessments and Recommendations
## WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2015)

| Reach No. and Name | DATE | Sampling Parameters | Sample Location | | | COMMENT |
|---|---|---|---|---|---|---|
| | | | Upstream of Project (u/s) | Within Project | Downstream of Project (d/s) | |
| Reach 24 Compton Creek | 9/17/2015 | TIME | 855 | 915 | 940 | **Baseline/Pre-Work** |
| | | SAMPLE NO. | R24-1-917 | R24-2-917 | R24-3-917 | Workers have begun clearing slope of banks (not in invert); Plants bent over because of rain on Tues and easily accessible; Debris located in US location; Bird spotted in DS location. |
| | | TEMP (°C) | 21.70 | 22.80 | 23.06 | |
| | | pH | 8.20 | 6.78 | 6.83 | |
| | | Turbidity (NTUs) | 4.24 | 6.06 | 6.19 | |
| | | Dissolved O2 (mg/L) | 14.30 | 8.43 | 2.33 | |
| | | Total Suspended Solids (mg/L) | <10 | <10 | <10 | |
| Reach 24 Compton Creek | 9/21/2015 | TIME | 854 | 919 | 936 | **During Work** |
| | | SAMPLE NO. | R24-1-921 | R24-2-921 | R24-3-921 | Construction began in invert near US location; Even though the turbidity at DS is higher than the upstream, it is similar to its natural variance according to the baseline sample we took. ***There was no water present at the DS sample location therefore a measurement was not taken at this location.** |
| | | TEMP (°C) | 24.06 | 23.45 | * | |
| | | pH | 8.25 | 7.33 | * | |
| | | Turbidity (NTUs) | 2.60 | 1.44 | * | |
| | | Dissolved O2 (mg/L) | 8.31 | 2.45 | * | |
| | | Total Suspended Solids (mg/L) | 17 | 18 | * | |
| Reach 24 Compton Creek | 9/22/2015 | TIME | 839 | 958 | 928 | **During Work** |
| | | SAMPLE NO. | R24-1-922 | R24-2-922 | R24-3-922 | The high MP turbidity could be a result of a natural variance. *** There was no water past the downstream BMP, so no water sample was taken.** |
| | | TEMP (°C) | 22.62 | 22.13 | * | |
| | | pH | 7.85 | 6.9 | * | |
| | | Turbidity (NTUs) | 3.1 | 12.6 | * | |
| | | Dissolved O2 (mg/L) | 8.98 | 2.82 | * | |
| | | Total Suspended Solids (mg/L) | 45 | 17 | * | |

## Compton Creek - Soft-Bottom Channels
## Feasibility Studies Technical Assessments and Recommendations
## WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2015)

| Reach No. and Name | DATE | Sampling Parameters | Sample Location | | | COMMENT |
|---|---|---|---|---|---|---|
| | | | Upstream of Project (u/s) | Within Project | Downstream of Project (d/s) | |
| Reach 24 Compton Creek | 9/23/2015 | TIME | 842 | 900 | 919 | **During Work** |
| | | SAMPLE NO. | R24-1-923 | R24-2-923 | R24-3-923 | At upstream, flow is clear but becomes slightly murky when starts ponding. Construction removed more grasses near slopes of banks. *** No water flow occuring at midpoint or downstream so no samples were taken.** |
| | | TEMP (°C) | 22.4 | * | * | |
| | | pH | 8.12 | * | * | |
| | | Turbidity (NTUs) | 9.97 | * | * | |
| | | Dissolved O2 (mg/L) | 9.82 | * | * | |
| | | Total Suspended Solids (mg/L) | 45 | * | * | |
| Reach 24 Compton Creek | 9/24/2015 | TIME | 845 | 905 | 935 | **During Work** |
| | | SAMPLE NO. | R24-1-924 | R24-2-924 | R24-3-924 | Low tide. Murkier water. More stagnant than normal. Slight reverse tidal flow. |
| | | TEMP (°C) | 22.72 | 22.58 | 24.24 | |
| | | pH | 7.96 | 6.91 | 8.25 | |
| | | Turbidity (NTUs) | 4.81 | 8.05 | 5.25 | |
| | | Dissolved O2 (mg/L) | 9.44 | 1.24 | 9.35 | |
| | | Total Suspended Solids (mg/L) | 150 | 20 | 11 | |
| Reach 24 Compton Creek | 9/25/2015 | TIME | 845 | 905 | 935 | **During Work** |
| | | SAMPLE NO. | R24-1-925 | R24-2-925 | R24-3-925 | Construction was occurring a little downstream of the MP location but not disturbing the water or roots. Various wildlife observed at MP (tadpoles, dragonflies, birds). **The MP exceedance occurred again but this time we tested a possible source: an outlet located between the upstream and midpoint locations. I tested the water coming from the outlet:** At 10:01 AM, the water from the outlet was 13.95 NTU and 20 ft away from that point, it was 22 NTU. **This confirms this could be a possible source of increase in turbidity at the MP.** |
| | | TEMP (°C) | 23.36 | 22.78 | 25.09 | |
| | | pH | 8.33 | 7.13 | 8.12 | |
| | | Turbidity (NTUs) | 3.62 | 15.8 | 2.95 | |
| | | Dissolved O2 (mg/L) | 9.4 | 3.15 | 8.18 | |
| | | Total Suspended Solids (mg/L) | 56 | 16 | 15 | |

## Compton Creek - Soft-Bottom Channels
## Feasibility Studies Technical Assessments and Recommendations
## WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2015)

| Reach No. and Name | DATE | Sampling Parameters | Sample Location | | | COMMENT |
|---|---|---|---|---|---|---|
| | | | Upstream of Project (u/s) | Within Project | Downstream of Project (d/s) | |
| Reach 24 Compton Creek | 9/29/2015 | TIME | 855 | 909 | 933 | **During Work** |
| | | SAMPLE NO. | R24-1-929 | R24-2-929 | R24-3-929 | At upstream, a lot of vegetation had been cut and there was faster flow. At midpoint, a lot more water so the deeper. ***There was no water present after the BMP so no sample was taken.** |
| | | TEMP (°F) | 68.48 | 70.59 | * | |
| | | pH | 7.09 | 6.01 | * | |
| | | Turbidity (NTUs) | 12.3 | 12.2 | * | |
| | | Dissolved O2 (mg/L) | 12.05 | 1.11 | * | |
| | | Total Suspended Solids (mg/L) | 11 | <10 | * | |
| Reach 24 Compton Creek | 10/9/2015 | TIME | 918 | 935 | 950 | **During Work** |
| | | SAMPLE NO. | R24-1-109 | R24-2-109 | R24-3-109 | Rain earlier in the week has caused flow throughout the entire reach so all the water that was settled is finally flowing downstream. Vegetation that had not been cut was also knocked down. Construction was occuring between MP and DS. At DS, the water was overflowing (at some point over the BMPs) and 4 BMPs were already in place. The exceedance after the last BMP was high but multiple measurement were taken after the field supervisor was notified of the exceedance. However, multiple BMPs were already in place. Water was pooling in between BMPs which could have cause the increased turbidity as nutrients were building up. |
| | | TEMP (°C) | 23.72 | 23.26 | 24.55 | |
| | | pH | 8.5 | 6.8 | 7.02 | |
| | | Turbidity (NTUs) | 5.25 | 17.1 | 31.7 | |
| | | Dissolved O2 (mg/L) | 9.19 | 8.68 | 9.59 | |
| | | Total Suspended Solids (mg/L) | 10 | 10 | 16 | |
| Reach 24 Compton Creek | 10/15/2015 | TIME | 842 | 857 | 917 | **Post Work** |
| | | SAMPLE NO. | R24-1-1015 | R24-2-1015 | R24-3-1015 | At US location: soil was piled up in reach where vegetation had fallen into water. There was an outlet open between the US and MP locations that was letting in a lot of water that could be a potential source for increase in turbidity. There was a lot of overflow and water pooling on the sides of the reach throughout reach. All of the BMPs were gone and no soils were falling into the reach that could be seen. |
| | | TEMP (°C) | 23.45 | 23.56 | 23.26 | |
| | | pH | 8.58 | 6.95 | 6.84 | |
| | | Turbidity (NTUs) | 5.92 | 11.4 | 11.3 | |
| | | Dissolved O2 (mg/L) | 8.95 | 9.07 | 9.1 | |
| | | Total Suspended Solids (mg/L) | 10 | 16 | 16 | |

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# Lower Los Angeles River - Soft-Bottom Channels
## Feasibility Studies Technical Assessments and Recommendations
## WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2014)

| Reach No. and Name | DATE | Sampling Parameters | Sample Location | | | COMMENT |
|---|---|---|---|---|---|---|
| | | | Upstream of Project | Within Project | Downstream of Project | |
| Reach 25 Los Angeles River - West | 9/11/2014 | TIME | 1052 | 1033 | 1005 | **Baseline/Pre-Work** |
| | | SAMPLE NO. | LARW-1 | LARW-2 | LARW-3 | Arrived on site about 0930 to perform pre-work baseline monitoring and sampling at upstream, internal, and downstream sampling points; met with Crew Leader David Banuelos and his assistant of FMD Imperial Yard; very high tide at time of sampling; upstream sampling point at same location as in 2013; interim internal sampling point established about half-way between the 1st and 2nd supports for the overhead oil pipeline due to high tide and deep water (over knee height); downstream sampling point relocated about 30' s/o point used in 2013; from a water quality standpoint, project is "good to go" for proposed start on Monday, 09/15. |
| | | TEMP (°C) | 32.06 | 27.60 | 26.49 | |
| | | pH | 9.85 | 8.14 | 8.26 | |
| | | Turbidity (NTUs) | 4.33 | 12.00 | 5.62 | |
| | | Dissolved O2 (mg/L) | 12.38 | 3.48 | 3.75 | |
| | | Total Suspended Solids (mg/L) | 20.0 | 13.0 | 8.4 | |
| Reach 25 Los Angeles River - West | 9/17/2014 | TIME | 1002 | 943 | 920 | **During Work** |
| | | SAMPLE NO. | LARW-1 | LARW-2 | LARW-3 | Arrived on site about 0900; 1st day of field operations; BMPs (K-rail, plastic, and sand bags) placed in LA River upstream of SBC on 09/16; internal sampling point relocated to 2013 position; upstream turbidity reading of 6.14 NTU is over 20% above the baseline turbidity reading of 4.33 (+20% = 5.19 NTU) due to upstream sources; internal and downstream turbidity readings of 4.17 NTU and 2.46 NTU are both below the respective baseline turbidity readings of 12.0 NTU and 5.62 NTU; crew removing vegetation from rock levee and equipment is creating access roads on the river bank; neither are in the water and have no influence on turbidity or water quality; notified and discussed results via phone with Crew Leader David Banuelos. |
| | | TEMP (°C) | 32.80 | 29.79 | 29.74 | |
| | | pH | 9.53 | 8.02 | 8.39 | |
| | | Turbidity (NTUs) | 6.14 | 4.17 | 2.46 | |
| | | Dissolved O2 (mg/L) | 9.17 | 2.63 | 2.17 <BL | |
| | | Total Suspended Solids (mg/L) | 86.0 | 8.0 | 4.2 | |

# Lower Los Angeles River - Soft-Bottom Channels
## Feasibility Studies Technical Assessments and Recommendations
## WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2014)

| Reach No. and Name | DATE | Sampling Parameters | Sample Location | | | COMMENT |
|---|---|---|---|---|---|---|
| | | | Upstream of Project | Within Project | Downstream of Project | |
| Reach 25 Los Angeles River - West | 9/18/2014 | TIME | 931 | 901 | 841 | **During Work** |
| | | SAMPLE NO. | LARW-1 | LARW-2 | LARW-3 | Arrived on site about 0830; 2nd day of field operations; upstream and internal turbidity readings of 8.59 NTU and 31.5 NTU are both over 20% above the respective baseline turbidity readings of 4.33(+20% = 5.19 NTU) and 12.0(+20% = 14.4 NTU) due to upstream sources and ducks feeding in the area; downstream turbidity reading of 3.74 NTU is below the baseline turbidity reading of 5.62 NTU; crew working by hand on removing vegetation from the rock levee and equipment is creating access roads; neither are in the water and have no influence on turbidity or water quality; notified and discussed results via phone with Crew Leader David Banuelos of FMD Imperial Yard. |
| | | TEMP (°C) | 26.64 | 24.96 | 25.62 | |
| | | pH | 9.23 | 8.22 | 8.46 | |
| | | Turbidity (NTUs) | 8.59 | 31.50 | 3.74 <BL | |
| | | Dissolved O2 (mg/L) | 8.50 | 8.36 | 1.51 | |
| | | Total Suspended Solids (mg/L) | 49.0 | 19.0 | 15.0 | |
| Reach 25 Los Angeles River - West | 9/19/2014 | TIME | 1036 | 1008 | 939 | **During Work** |
| | | SAMPLE NO. | LARW-1 | LARW-2 | LARW-3 | Arrived on site about 0930; 3rd day of field operations; upstream, internal, and downstream turbidity readings of 3.17 NTU, 2.90 NTU, and 3.44 NTU are all below the respective baseline turbidity readings of 4.33 NTU, 12.0 NTU, and 5.62 NTU; crew working by hand on removing vegetation from the rock levee and equipment is creating access roads; neither are in the water and have no influence on turbidity or water quality; notified and discussed results via phone with Crew Leader David Banuelos of FMD Imperial Yard. |
| | | TEMP (°C) | 26.32 | 25.02 | 24.79 | |
| | | pH | 9.49 | 8.94 | 8.43 | |
| | | Turbidity (NTUs) | 3.17 | 2.90 | 3.44 <BL | |
| | | Dissolved O2 (mg/L) | 8.31 | 8.86 | 1.71 | |
| | | Total Suspended Solids (mg/L) | 55.0 | 32.0 | 5.0 | |

# Lower Los Angeles River - Soft-Bottom Channels
## Feasibility Studies Technical Assessments and Recommendations
## WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2014)

| Reach No. and Name | DATE | Sampling Parameters | Sample Location | | | COMMENT |
|---|---|---|---|---|---|---|
| | | | Upstream of Project | Within Project | Downstream of Project | |
| Reach 25 Los Angeles River - West | 9/22/2014 | TIME | 1014 | 958 | 926 | **During Work** |
| | | SAMPLE NO. | LARW-1 | LARW-2 | LARW-3 | Arrived on site about 0920; 4th day of field operations; upstream turbidity reading of 7.32 NTU is over 20% above the baseline turbidity reading of 4.33(+20% = 5.19 NTU) due to trucks transporting vegetation from the west bank; internal and downstream turbidity readings of 5.15 NTU and 5.06 NTU are both below the respective baseline levels of 12.0 NTU and 5.62 NTU; crew working by hand on removing vegetation from the rock levee, and equipment is creating access roads and transporting vegetation from the bank; notified and discussed results via phone with Crew Leader David Banuelos of FMD Imperial Yard. |
| | | TEMP (°C) | 26.30 | 24.21 | 24.66 | |
| | | pH | 9.58 | 8.86 | 8.66 | |
| | | Turbidity (NTUs) | 7.32 | 5.15 | 5.06 <BL | |
| | | Dissolved O2 (mg/L) | 10.40 | 6.94 | 4.59 | |
| | | Total Suspended Solids (mg/L) | 41.0 | 9.8 | 9.0 | |
| Reach 25 Los Angeles River - West | 9/23/2014 | TIME | 1044 | 1030 | 944 | **During Work** |
| | | SAMPLE NO. | LARW-1 | LARW-2 | LARW-3 | Arrived on site about 0935; 5th day of field operations; upstream turbidity reading of 5.52 NTU is slightly over 20% above the baseline turbidity reading of 4.33(+20% = 5.19 NTU) due to trucks transporting vegetation from the west bank; internal and downstream turbidity readings of 4.65 NTU and 4.47 NTU are both below the respective baseline levels of 12.0 NTU and 5.62 NTU; crew working by hand on removing vegetation from the rock levee, and equipment is creating access roads and transporting vegetation from the bank; notified and discussed results via phone with Crew Leader David Banuelos of FMD Imperial Yard. |
| | | TEMP (°C) | 28.31 | 24.91 | 25.59 | |
| | | pH | 9.78 | 8.99 | 8.71 | |
| | | Turbidity (NTUs) | 5.52 | 4.65 | 4.47 <BL | |
| | | Dissolved O2 (mg/L) | 8.82 | 6.65 | 3.98 | |
| | | Total Suspended Solids (mg/L) | 31.0 | 7.4 | 9.0 | |

# Lower Los Angeles River - Soft-Bottom Channels
# Feasibility Studies Technical Assessments and Recommendations
# WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2014)

| Reach No. and Name | DATE | Sampling Parameters | Sample Location | | | COMMENT |
|---|---|---|---|---|---|---|
| | | | Upstream of Project | Within Project | Downstream of Project | |
| Reach 25 Los Angeles River - West | 9/24/2014 | TIME | 1027 | 1015 | 937 | **During Work** |
| | | SAMPLE NO. | LARW-1 | LARW-2 | LARW-3 | Arrived on site about 0930; 6th day of field operations; end of daily monitoring/start of weekly monitoring; upstream turbidity reading of 7.30 NTU is over 20% above the baseline turbidity reading of 4.33(+20% = 5.19 NTU) due to trucks transporting vegetation from the west bank; internal turbidity reading of 5.19 NTU is below the baseline turbidity reading of 12.0 NTU; downstream turbidity reading of 5.99 NTU is within the acceptable 20% limit of the baseline turbidity reading of 5.62(+20% = 6.74 NTU); crew working by hand on removing vegetation from the rock levee and equipment is removing and transporting vegetation from the bank; notified and discussed results via phone with Crew Leader David Banuelos of FMD Imperial Yard. |
| | | TEMP (°C) | 28.14 | 25.64 | 25.36 | |
| | | pH | 9.71 | 8.84 | 8.59 | |
| | | Turbidity (NTUs) | 7.30 | 5.19 | 5.99 <20% BL | |
| | | Dissolved O2 (mg/L) | 13.43 | 12.67 | 14.50 | |
| | | Total Suspended Solids (mg/L) | 8.0 | 24.0 | 18.0 | |
| Reach 25 Los Angeles River - West | 10/1/2014 | TIME | 1143 | 1152 | 1207 | **During Work** |
| | | SAMPLE NO. | LARW-1 | LARW-2 | LARW-3 | Arrived on site about 1135; 2nd week of field operations; upstream turbidity reading of 7.30 NTU is over 20% above the baseline turbidity reading of 4.33(+20% = 5.19 NTU) due to a large amount of floating and suspended material from upstream sources; internal and downstream turbidity readings of 6.64 NTU and 5.54 NTU are both below the respective baseline levels of 12.0 NTU and 5.62 NTU; crew working by hand on removing vegetation from the rock levee, and equipment is creating access roads and transporting vegetation from the bank; notified and discussed results via phone with Crew Leader David Banuelos of FMD Imperial Yard. |
| | | TEMP (°C) | 27.61 | 26.88 | 25.09 | |
| | | pH | 9.67 | 9.44 | 8.72 | |
| | | Turbidity (NTUs) | 7.30 | 6.64 | 5.54 <BL | |
| | | Dissolved O2 (mg/L) | 10.76 | 7.96 | 3.61 | |
| | | Total Suspended Solids (mg/L) | 39.0 | 32.0 | 15.0 | |

# Lower Los Angeles River - Soft-Bottom Channels
# Feasibility Studies Technical Assessments and Recommendations
# WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2014)

| Reach No. and Name | DATE | Sampling Parameters | Sample Location | | | COMMENT |
|---|---|---|---|---|---|---|
| | | | Upstream of Project | Within Project | Downstream of Project | |
| Reach 25 Los Angeles River - West | 10/15/2014 | TIME | 1202 | 1149 | 1134 | **During Work** |
| | | SAMPLE NO. | LARW-1 | LARW-2 | LARW-3 | Arrived on site about 1125; 3rd week of field operations following "off week" of 10/06 due to extremely high tides; very low tide at time of monitoring/sampling; upstream and internal turbidity readings of 5.99 NTU and 15.1 NTU are both over 20% above the respective baseline levels of 4.33(+20% = 5.19 NTU) and 12.0(+20% = 14.4 NTU) due to a large amount of floating and suspended material from upstream sources; small equipment working on bank and not transporting any vegetation from the site; no influence on turbidity or water quality; notifed and discussed results via phone with Crew Leader David Banuelos of FMD Imperial Yard. |
| | | TEMP (°C) | 27.91 | 24.78 | 23.25 | |
| | | pH | 10.09 | 8.58 | 8.75 | |
| | | Turbidity (NTUs) | 5.99 | 15.10 | 4.72 <BL | |
| | | Dissolved O2 (mg/L) | 9.89 | 0.98 | 7.48 | |
| | | Total Suspended Solids (mg/L) | 42.0 | 7.8 | 4.8 | |
| Reach 25 Los Angeles River - West | 10/21/2014 | TIME | 1045 | 1020 | 954 | **Post Work** |
| | | SAMPLE NO. | LARW-1 | LARW-2 | LARW-3 | Arrived on site about 0945 to perform post-work monitoring and sampling following completion of work on Friday, 10/17; upstream and internal turbidity readings of 3.79 NTU and 8.61 NTU are both below the respective baseline turbidity readings of 4.33 NTU and 12.0 NTU; downstream turbidity reading of 10.22 NTU is over 20% above the baseline level of 5.62(+20% = 6.74 NTU) due to a large amount of floating and suspended material and many birds feeding in the immediate vicinity of the sampling point. |
| | | TEMP (°C) | 26.16 | 24.49 | 22.60 | |
| | | pH | 9.62 | 8.84 | 8.49 | |
| | | Turbidity (NTUs) | 3.79 | 8.61 | 10.22 | |
| | | Dissolved O2 (mg/L) | 8.06 | 6.26 | 2.80 | |
| | | Total Suspended Solids (mg/L) | 20.0 | 17.0 | 8.8 | |

# Lower Los Angeles River - Soft-Bottom Channels
# Feasibility Studies Technical Assessments and Recommendations
# WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2014)

| Reach No. and Name | DATE | Sampling Parameters | Sample Location | | | COMMENT |
|---|---|---|---|---|---|---|
| | | | Upstream of Project | Within Project | Downstream of Project | |
| Reach 25 Los Angeles River - East | 9/11/2014 | TIME | 1114 | 1136 | 1159 | **Baseline/Pre-Work** |
| | | SAMPLE NO. | LARE-1 | LARE-2 | LARE-3 | Arrived on site about 1100 to perform pre-work baseline monitoring and sampling at upstream, internal, and downstream sampling points; met with Crew Leader David Banuelos and his assistant of FMD Imperial Yard; very high tide at time of sampling; upstream and downstream sampling points at same locations as in 2013; interim internal sampling point established about half-way between the 3rd and 4th supports for the overhead oil pipeline due to high tide and deep water (over knee height); from a water quality standpoint, project is "good to go" for proposed start on Monday, 09/15. |
| | | TEMP (°C) | 31.61 | 29.90 | 28.38 | |
| | | pH | 9.93 | 8.28 | 8.22 | |
| | | Turbidity (NTUs) | 4.36 | 5.54 | 5.16 | |
| | | Dissolved O2 (mg/L) | 11.16 | 5.00 | 2.86 | |
| | | Total Suspended Solids (mg/L) | 38.0 | 9.0 | 15.0 | |
| Reach 25 Los Angeles River - East | 9/17/2014 | TIME | 1035 | 1055 | 1112 | **During Work** |
| | | SAMPLE NO. | LARE-1 | LARE-2 | LARE-3 | Arrived on site about 1025; 1st day of field operations; BMPs (K-rail, plastic, and sand bags) placed in LA River upstream of SBC on 09/16; internal sampling point relocated to 2013 position; upstream turbidity reading of 7.81 NTU is over 20% above the baseline turbidity reading of 4.36 (+20% = 5.24 NTU) due to upstream sources; internal and downstream turbidity readings of 4.81 NTU and 4.32 NTU are both below the respective baseline turbidity readings of 5.54 NTU and 5.16 NTU; crew removing vegetation from rock levee and equipment is creating access roads on the river bank; neither are in the water and have no influence on turbidity or water quality; notified and discussed results via phone with Crew Leader David Banuelos. |
| | | TEMP (°C) | 32.26 | 30.82 | 29.01 | |
| | | pH | 9.63 | 9.27 | 8.35 | |
| | | Turbidity (NTUs) | 7.81 | 4.81 | 4.32 <BL | |
| | | Dissolved O2 (mg/L) | 12.57 | 7.86 | 4.76 | |
| | | Total Suspended Solids (mg/L) | 66.0 | 17.0 | 57.0 | |

# Lower Los Angeles River - Soft-Bottom Channels
## Feasibility Studies Technical Assessments and Recommendations
## WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2014)

| Reach No. and Name | DATE | Sampling Parameters | Sample Location | | | COMMENT |
|---|---|---|---|---|---|---|
| | | | Upstream of Project | Within Project | Downstream of Project | |
| Reach 25 Los Angeles River - East | 9/18/2014 | TIME | 943 | 959 | 1026 | **During Work** |
| | | SAMPLE NO. | LARE-1 | LARE-2 | LARE-3 | Arrived on site about 0940; 2nd day of field operations; upstream turbidity reading of 9.31 NTU is over 20% above the respective baseline turbidity reading of 4.36(+20% = 5.24 NTU) due to upstream sources; internal and downstream turbidity readings of 5.24 NTU and 4.30 NTU are both below the respective baseline turbidity readings of 5.54 NTU and 5.16 NTU; crew working by hand on removing vegetation from the rock levee and equipment is creating access roads; neither are in the water and have no influence on turbidity or water quality; notified and discussed results via phone with Crew Leader David Banuelos of FMD Imperial Yard. |
| | | TEMP (°C) | 27.76 | 25.20 | 25.02 | |
| | | pH | 9.35 | 8.92 | 8.38 | |
| | | Turbidity (NTUs) | 9.31 | 5.24 | 4.30 <BL | |
| | | Dissolved O2 (mg/L) | 8.34 | 6.02 | 2.77 | |
| | | Total Suspended Solids (mg/L) | 74.0 | 12.0 | 15.0 | |
| Reach 25 Los Angeles River - East | 9/19/2014 | TIME | 812 | 840 | 902 | **During Work** |
| | | SAMPLE NO. | LARE-1 | LARE-2 | LARE-3 | Arrived on site about 0800; 3rd day of field operations; upstream turbidity reading of 5.58 NTU is slightly over 20% above the baseline turbidity reading of 4.36(+20% = 5.24 NTU) due to trucks transporting vegetation from the east bank; internal and downstream turbidity readings of 3.24 NTU and 2.90 NTU are both below the respective baseline turbidity readings of 5.54 NTU and 5.16 NTU; crew working by hand on removing vegetation from the rock levee, and equipment is creating access roads and transporting vegetation from the bank; notified and discussed results via phone with Crew Leader David Banuelos of FMD Imperial Yard. |
| | | TEMP (°C) | 24.24 | 23.81 | 24.23 | |
| | | pH | 8.66 | 8.36 | 8.39 | |
| | | Turbidity (NTUs) | 5.58 | 3.24 | 2.90 <BL | |
| | | Dissolved O2 (mg/L) | 4.76 | 3.07 | 1.46 | |
| | | Total Suspended Solids (mg/L) | 99.0 | 16.0 | 3.6 | |

# Lower Los Angeles River - Soft-Bottom Channels
## Feasibility Studies Technical Assessments and Recommendations
## WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2014)

| Reach No. and Name | DATE | Sampling Parameters | Sample Location | | | COMMENT |
|---|---|---|---|---|---|---|
| | | | Upstream of Project | Within Project | Downstream of Project | |
| Reach 25 Los Angeles River - East | 9/22/2014 | TIME | 1027 | 1043 | 1115 | **During Work** |
| | | SAMPLE NO. | LARE-1 | LARE-2 | LARE-3 | Arrived on site about 1025; 4th day of field operations; upstream turbidity reading of 12.9 NTU is over 20% above the baseline turbidity reading of 4.36(+20% = 5.24 NTU) due to upstream sources and trucks transporting vegetation from the east bank; internal turbidity reading of 5.75 NTU is within the acceptable 20% limit of the baseline turbidity reading of 5.54(+20% = 6.64 NTU); downstream turbidity reading of 10.27 NTU is over 20% above the baseline turbidity reading of 5.16(+20% = 6.20 NTU) due to carp that were "spooked" on my arrival at the sampling point; crew working by hand on removing vegetation from the rock levee, and equipment is creating access roads and transporting vegetation from the bank; notified and discussed results via phone with Crew Leader David Banuelos of FMD Imperial Yard. |
| | | TEMP (°C) | 26.55 | 25.00 | 25.36 | |
| | | pH | 9.56 | 8.89 | 8.53 | |
| | | Turbidity (NTUs) | 12.90 | 5.75 | 10.27 | |
| | | Dissolved O2 (mg/L) | 10.59 | 6.91 | 3.45 | |
| | | Total Suspended Solids (mg/L) | 94.0 | 11.0 | 52.0 | |
| Reach 25 Los Angeles River - East | 9/23/2014 | TIME | 1055 | 1108 | 1140 | **During Work** |
| | | SAMPLE NO. | LARE-1 | LARE-2 | LARE-3 | Arrived on site about 1050; 5th day of field operations; upstream turbidity reading of 6.97 NTU is over 20% above the baseline turbidity reading of 4.36(+20% = 5.24 NTU) due to upstream sources and trucks transporting vegetation from the east bank; internal turbidity reading of 6.17 NTU is within the acceptable 20% limit of the baseline turbidity reading of 5.54(+20% = 6.64 NTU); downstream turbidity reading of 9.68 NTU is over 20% above the baseline turbidity reading of 5.16(+20% = 6.20 NTU) due to carp that were again "spooked" on my arrival at the sampling point; crew working by hand on removing vegetation from the rock levee, and equipment is creating access roads and transporting vegetation from the bank; notified and discussed results via phone with Crew Leader David Banuelos of FMD Imperial Yard. |
| | | TEMP (°C) | 28.86 | 26.63 | 26.08 | |
| | | pH | 9.74 | 9.13 | 8.66 | |
| | | Turbidity (NTUs) | 6.97 | 6.17 | 9.68 | |
| | | Dissolved O2 (mg/L) | 9.40 | 7.23 | 4.03 | |
| | | Total Suspended Solids (mg/L) | 82.0 | 17.0 | 50.0 | |

# Lower Los Angeles River - Soft-Bottom Channels
# Feasibility Studies Technical Assessments and Recommendations
# WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2014)

| Reach No. and Name | DATE | Sampling Parameters | Sample Location | | | COMMENT |
|---|---|---|---|---|---|---|
| | | | Upstream of Project | Within Project | Downstream of Project | |
| Reach 25 Los Angeles River - East | 9/24/2014 | TIME | 1039 | 1056 | 1133 | **During Work** |
| | | SAMPLE NO. | LARE-1 | LARE-2 | LARE-3 | Arrived on site about 1035; 6th day of field operations; end of daily monitoring and start of weekly monitoring; upstream turbidity reading of 7.99 NTU is over 20% above the baseline turbidity reading of 4.36(+20% = 5.24 NTU) due to upstream sources and trucks transporting vegetation from the east bank; internal turbidity reading of 6.17 NTU is within the acceptable 20% limit of the baseline turbidity reading of 5.54(+20% = 6.64 NTU); downstream turbidity reading of 9.27 NTU is over 20% above the baseline turbidity reading of 5.16(+20% = 6.20 NTU) due to carp that were again "spooked" on my arrival at the sampling point; crew working by hand on removing vegetation from the rock levee, and equipment is creating access roads and transporting vegetation from the bank; notified and discussed results via phone with Crew Leader David Banuelos of FMD Imperial Yard. |
| | | TEMP (°C) | 28.72 | 25.67 | 26.13 | |
| | | pH | 9.60 | 8.84 | 8.78 | |
| | | Turbidity (NTUs) | 7.99 | 6.17 | 9.27 | |
| | | Dissolved O2 (mg/L) | 9.67 | 5.44 | 4.79 | |
| | | Total Suspended Solids (mg/L) | 70.0 | 7.8 | 13.0 | |
| Reach 25 Los Angeles River - East | 10/1/2014 | TIME | 1223 | 1235 | 1249 | **During Work** |
| | | SAMPLE NO. | LARE-1 | LARE-2 | LARE-3 | Arrived on site about 1220; 2nd week of field operations; upstream, internal, and downstream turbidity readings of 6.43 NTU, 8.47 NTU, and 6.69 NTU are all over 20% above the respective baseline turbidity readings of 4.36(+20% = 5.24 NTU), 5.54(+20% = 6.64 NTU), and 5.16(+20% = 6.20 NTU) due to a significant amount of floating and suspended material in the water from upstream sources; crew working by hand on removing vegetation from the rock levee, and equipment is creating access roads and transporting vegetation from the bank; notified and discussed results via phone with Crew Leader David Banuelos of FMD Imperial Yard. |
| | | TEMP (°C) | 30.09 | 27.82 | 25.46 | |
| | | pH | 9.93 | 9.58 | 8.70 | |
| | | Turbidity (NTUs) | 6.43 | 8.47 | 6.69 | |
| | | Dissolved O2 (mg/L) | 10.71 | 7.63 | 2.72 | |
| | | Total Suspended Solids (mg/L) | 42.0 | 17.0 | 10.0 | |

# Lower Los Angeles River - Soft-Bottom Channels
## Feasibility Studies Technical Assessments and Recommendations
## WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2014)

| Reach No. and Name | DATE | Sampling Parameters | Sample Location | | | COMMENT |
|---|---|---|---|---|---|---|
| | | | Upstream of Project | Within Project | Downstream of Project | |
| Reach 25 Los Angeles River - East | 10/15/2014 | TIME | 1045 | 1100 | 1115 | **During Work** |
| | | SAMPLE NO. | LARE-1 | LARE-2 | LARE-3 | Arrived on site about 1035; 3rd week of field operations following "off week" of 10/06 due to extremely high tides; very low tide at time of monitoring/sampling; upstream turbidity reading of 5.83 NTU is over 20% above the baseline turbidity reading of 4.36(+20% = 5.24 NTU) due to a large amount of floating and suspended material in the water; internal and downstream turbidity readings of 4.34 NTU and 3.53 NTU are both below the respective baseline turbidity readings of 5.54 NTU and 5.16 NTU; small equipment working on bank and not transporting any vegetation from the site; no influence on turbidity or water quality; notifed and discussed results via phone with Crew Leader David Banuelos of FMD Imperial Yard. |
| | | TEMP (°C) | 26.82 | 24.56 | 23.18 | |
| | | pH | 9.81 | 9.45 | 8.85 | |
| | | Turbidity (NTUs) | 5.83 | 4.34 | 3.53 <BL | |
| | | Dissolved O2 (mg/L) | 10.10 | 7.49 | 3.14 | |
| | | Total Suspended Solids (mg/L) | 71.0 | 15.0 | 5.2 | |
| Reach 25 Los Angeles River - East | 10/21/2014 | TIME | 834 | 905 | 930 | **Post Work** |
| | | SAMPLE NO. | LARE-1 | LARE-2 | LARE-3 | Arrived on site about 0825 to perform post-work monitoring and sampling following completion of work on Friday, 10/17; upstream turbidity reading of 3.38 NTU is below the baseline turbidity reading of 4.36 NTU; internal and downstream turbidity readings of 9.77 NTU and 10.43 NTU are both over 20% above the respective baseline turbidity readings of 5.54(+20% = 6.64 NTU) and 5.16(+20% = 6.20 NTU) due to a large amount of floating and suspended material in the immediate vicinity of both sampling points. |
| | | TEMP (°C) | 21.85 | 21.65 | 21.87 | |
| | | pH | 8.69 | 8.43 | 8.60 | |
| | | Turbidity (NTUs) | 3.38 | 9.77 | 10.43 | |
| | | Dissolved O2 (mg/L) | 3.67 | 2.82 | 1.95 | |
| | | Total Suspended Solids (mg/L) | 20.0 | 17.0 | 6.8 | |

## Lower Los Angeles River - Soft-Bottom Channels
## Feasibility Studies Technical Assessments and Recommendations
## WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2015)

| Reach No. and Name | DATE | Sampling Parameters | Sample Location | | | COMMENT |
|---|---|---|---|---|---|---|
| | | | Upstream of Project (u/s) | Within Project | Downstream of Project (d/s) | |
| Reach 25 Los Angeles River | 9/29/2015 | TIME | 10:39 AM | 11:01 AM | 11:22 AM | **Baseline/Pre-Work** |
| | | SAMPLE NO. | 25-1 (US) | 25-2 (MP) | 25-3 (DS2) | Very wide reach that is heavily influenced by tidal flow. It was high tide when taking measurements so water was spread it farther (width wise) over vegetation/rocks/soil, especially at midpoint. At downstream point, water was seeping over soil on side of banks (where it normally wouldnt be). Took 3 extra measurements (no TSS samples) on left side/north side of bank because foreman asked for it. For future samples, will only take other side if exceedance occurs on right hand side. |
| | | TEMP (°C) | 77.21 | 73.25 | 72.14 | |
| | | pH | 7.94 | 6.11 | 6.53 | |
| | | Turbidity (NTUs) | 2.69 | 5.36 | 4.95 | |
| | | Dissolved O2 (mg/L) | 9.26 | 8.83 | 4.05 | |
| | | Total Suspended Solids (mg/L) | 13 | 11 | <10 | |
| Reach 25 Los Angeles River | 9/30/2015 | TIME | 11:20 AM | 11:35 AM | 11:53 AM | **During Work** |
| | | SAMPLE NO. | 25-1-930 | 25-2-930 | 25-3-930 | DS Turbidity was greater than US turbidity, as demonstrated in preconstruction results. Very wide reach, high tide coming in during sampling. Steady laminar flow at the upstream, and reverse tidal flow at the midpoint and downstream (flow from the bay to the upstream). |
| | | TEMP (°C) | 83.91 F | 75.84 F | 74.3 F | |
| | | pH | 9.25 | 7.41 | 7.48 | |
| | | Turbidity (NTUs) | 2.58 | 6.31 | 4.42 | |
| | | Dissolved O2 (mg/L) | 17.5 | 5.15 | 1.42 | |
| | | Total Suspended Solids (mg/L) | 13 | 11 | 11 | |

## Lower Los Angeles River - Soft-Bottom Channels
## Feasibility Studies Technical Assessments and Recommendations
## WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2015)

| Reach No. and Name | DATE | Sampling Parameters | Sample Location | | | COMMENT |
|---|---|---|---|---|---|---|
| | | | Upstream of Project (u/s) | Within Project | Downstream of Project (d/s) | |
| Reach 25 Los Angeles River | 10/01/2015 | TIME | 10:45 AM | 11:05 AM | 11:26 AM | During Work |
| | | SAMPLE NO. | 25-1-101 | 25-2-101 | 25-3-101 | |
| | | TEMP (°C) | 27.29 | 24.13 | 24.11 | |
| | | pH | 9.03 | 7.83 | 7.64 | |
| | | Turbidity (NTUs) | 4.77 | 5.52 | 4.73 | |
| | | Dissolved O2 (mg/L) | 16.96 | 7.54 | 4.05 | |
| | | Total Suspended Solids (mg/L) | <10 | <10 | 12 | |
| Reach 25 Los Angeles River | 10/02/2015 | TIME | 10:05 AM | 10:25 AM | 10:55 AM | During Work |
| | | SAMPLE NO. | 25-1-102 | 25-2-102 | 25-3-102 | DS turbidity was greater than US turbidity, as demonstrated in preconstruction results.Reverse tidal flow and natural conditions reason for high turbidity. |
| | | TEMP (°C) | 24.44 | 23.4 | 24.29 | |
| | | pH | 6.32 | 7.84 | 7.88 | |
| | | Turbidity (NTUs) | 2.48 | 6.55 | 6.19 | |
| | | Dissolved O2 (mg/L) | 15.31 | 3.92 | 3.54 | |
| | | Total Suspended Solids (mg/L) | 10 | 10 | <10 | |
| Reach 25 Los Angeles River | 10/03/2015 | TIME | 1:06 PM | 1:26 PM | 1:58 PM | During Work |
| | | SAMPLE NO. | 25-1-103 | 25-2-103 | 25-3-103 | Low tide. Murkier water. More stagnant than normal. Slight reverse tidal flow. |
| | | TEMP (°C) | 30.16 | 24.88 | 25.31 | |
| | | pH | 9.48 | 8.47 | 8.41 | |
| | | Turbidity (NTUs) | 2.62 | 3.68 | 3.47 | |
| | | Dissolved O2 (mg/L) | 17.35 | 111.7 | 9.63 | |
| | | Total Suspended Solids (mg/L) | 23 | 15 | 12 | |
| Reach 25 Los Angeles River | 10/05/2015 | TIME | 11:05 AM | 11:15 AM | 11:34 AM | During Work |
| | | SAMPLE NO. | 25-1-105 | 25-2-105 | 25-3-105 | Low tide. Murkier water. More stagnant than normal. Slight reverse tidal flow. |
| | | TEMP (°C) | 23.22 | 21.3 | 18.8 | |
| | | pH | 7.61 | 5.88 | 7.27 | |
| | | Turbidity (NTUs) | 11.6 | 8.6 | 2.73 | |
| | | Dissolved O2 (mg/L) | 14 | 5.8 | 6.98 | |
| | | Total Suspended Solids (mg/L) | 30 | 23 | 11 | |

## Lower Los Angeles River - Soft-Bottom Channels
## Feasibility Studies Technical Assessments and Recommendations
## WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2015)

| Reach No. and Name | DATE | Sampling Parameters | Sample Location | | | COMMENT |
|---|---|---|---|---|---|---|
| | | | Upstream of Project (u/s) | Within Project | Downstream of Project (d/s) | |
| Reach 25 Los Angeles River | 10/06/2015 | TIME | 11:20 AM | 11:33 AM | 11:50 AM | **During Work** |
| | | SAMPLE NO. | 25-1-106 | 25-2-106 | 25-3-106 | Low tide. Murkier water. More stagnant than normal. Slight reverse tidal flow. |
| | | TEMP (°C) | 22.42 | 21.58 | 20.33 | |
| | | pH | 8.68 | 7.35 | 7.14 | |
| | | Turbidity (NTUs) | 16.6 | 14.1 | 9.61 | |
| | | Dissolved O2 (mg/L) | 13.37 | 7.19 | 4.35 | |
| | | Total Suspended Solids (mg/L) | 38 | 22 | 18 | |
| Reach 25 Los Angeles River | 10/13/2015 | TIME | 11:23 AM | 11:35 AM | 11:50 AM | **During Work** |
| | | SAMPLE NO. | 25-1-1013 | 25-2-1013 | 25-3-1013 | Low tide. Murkier water. More stagnant than normal. Slight reverse tidal flow. |
| | | TEMP (°C) | 82.6 | 79.04 | 74.3 | |
| | | pH | 8.73 | 7.59 | 7.96 | |
| | | Turbidity (NTUs) | 4.58 | 4.73 | 3.51 | |
| | | Dissolved O2 (mg/L) | 17.72 | 6.52 | 4.66 | |
| | | Total Suspended Solids (mg/L) | 20 | 22 | 10 | |
| Reach 25 Los Angeles River | 10/20/2015 | TIME | 11:10 AM | 11:24 AM | 11:40 AM | **During Work** |
| | | SAMPLE NO. | 25-1-1020 | 25-2-1020 | 25-3-1020 | Construction in Reach at time of sampling. Much more vegetation has been cleared. |
| | | TEMP (°C) | 75.94 | 71.54 | 69.24 | |
| | | pH | 8.3 | 8.16 | 7.16 | |
| | | Turbidity (NTUs) | 19.2 | 9.98 | 15.7 | |
| | | Dissolved O2 (mg/L) | 15.93 | 7.55 | 2.95 | |
| | | Total Suspended Solids (mg/L) | 89 | 19 | 19 | |
| Reach 25 Los Angeles River | 10/28/2015 | TIME | 12:10 PM | 12:25 PM | 12:41 PM | **Post Work** |
| | | SAMPLE NO. | 25-1-1028 | 25-2-1028 | 25-3-1028 | Construction has been completed at this reach. High tide and reverse tidal flow occurrence. Murky and dark colored water at upstream location probably due to street runoff from outfall. Turbidity exceedance was observed when compared to baseline limits, but this was due to high turbidity present at upstream of the reach. |
| | | TEMP (°C) | 71.78 | 72.2 | 71.41 | |
| | | pH | 8 | 7.47 | 7.64 | |
| | | Turbidity (NTUs) | 20.6 | 16.5 | 7.66 | |
| | | Dissolved O2 (mg/L) | 9.98 | 3.46 | 3.42 | |
| | | Total Suspended Solids (mg/L) | 270 | 17 | <10 | |

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# ATTACHMENT E

# PRE- AND POSTCLEARING FORMS

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**County of Los Angeles Department of Public Works**
Flood Maintenance Division
Earth Bottom Channel Program

## Biological Resources Monitoring Form

Reach Number: 24

Special Permit Conditions (list):
No special permit Conditions pertain to this reach, but the General Terms and Conditions of the permits apply.

Observation of Special Status Species: None observed.

**Pre-Clearing Documentation/Aquatic Resources Survey**

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)
Photos 37, 38, 39, 40, 41; Riparian herb and mulefat vegetation in area maintained. Castor Bean and Arundo throughout reach.

Name of Biological Monitor: Steven G. Mouch Date: August 17, 2015

**Post-Clearing Documentation**

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.
Photos 39, 40, 41, 42, 43; Some Reed beds in middle of low-flow channel at upstream and downstream ends of reach, but otherwise all vegetation removed.

Compliance with Permit Conditions: Full ✓ Partial ____

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):
Some Castor Bean present near upstream end of reach.

Name of Biological Monitor: Steven G. Mouch Date: October 10, 2015

**County of Los Angeles Department of Public Works**
Flood Maintenance Division
Earth Bottom Channel Program

## Biological Resources Monitoring Form

Reach Number: 25 EAST + WEST BANKS

Special Permit Conditions (list):
Operator shall not impact the 9.37 acres of vegetation allowed to remain in 1997. (NOTE: The OAC removed much of this vegetation in 2000).

Observation of Special Status Species: None observed.

**Pre-Clearing Documentation/Aquatic Resources Survey**

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)
Photos 48, 49, 50, 51, 52 (EAST BANK) & 53, 54, 55, 56, 57 (WEST BANK); Primarily riparian growth in area maintained. Castor Bean and Arundo spread throughout the reach.

Name of Biological Monitor: Karen G. Mouch Date: August 17, 2015

**Post-Clearing Documentation**

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.
Photos 1, 2, 3, 4, 5 (East Bank) & 6, 7, 8, 9, 10 (West Bank); Some Reed beds near edge of west bank, but otherwise all vegetation removed. Also Large Willows on East Bank remain.

Compliance with Permit Conditions: Full ✓ Partial ____

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Karen G. Mouch Date: November 4, 2015

**County of Los Angeles Department of Public Works**
Flood Maintenance Division
Earth Bottom Channel Program

## Biological Resources Monitoring Form

Reach Number: 24

Special Permit Conditions (list):
No special permit conditions pertain to this reach, but the general measures and conditions of the permit apply.

Observation of Special Status Species: None observed.

**Pre-Clearing Documentation/Aquatic Resources Survey**

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)
Photos 75, 76, 77, 78, 79; Riparian herb and ruderal vegetation in area maintained. Castor Bean and Arundo present.

Aquatic Resources Survey: N/A to this reach.

Name of Biological Monitor: Steven G. Mouch Date: August 21, 2014

**Post-Clearing Documentation**

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.
Photos 116, 117, 118, 119, 120; Some reed beds in the middle of low-flow channel throughout, but otherwise all vegetation removed.

Compliance with Permit Conditions: Full ✓ Partial ____

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Steven G. Mouch Date: January 14, 2015

**County of Los Angeles Department of Public Works**
Flood Maintenance Division
Earth Bottom Channel Program

## Biological Resources Monitoring Form

Reach Number: 25 E+W (25a = East bank; 25b = West bank)

Special Permit Conditions (list):
Operator shall not impact the 9.37 acres of Vegetation allowed to remain in 1997. (NOTE: The ACOE removed the Vegetation in 2000).

Observation of Special Status Species: None observed.

**Pre-Clearing Documentation/Aquatic Resources Survey**

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)
Photos - EAST BANK 80, 81, 82, 83, 84 & WEST BANK 85, 86, 87, 88, 89; Primarily mulefat growth in area maintained; some Castor Bean and Arundo present.

Aquatic Resources Survey: N/A to this reach.

Name of Biological Monitor: Steven G. Mork Date: August 21, 2014

**Post-Clearing Documentation**

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.
Photos 106, 107, 108, 109, 110 (EAST BANK) & 111, 112, 113, 114, 115 (WEST BANK); Some Reed beds on edge of west bank and willows on east bank, but otherwise all Vegetation removed although some small Arundo patches and Castor Bean in the rip-rap remain.

Compliance with Permit Conditions: Full ✓ Partial ____

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Steven G. Mork Date: January 14, 2015

# ATTACHMENT F

# PRE- AND POSTCLEARING PHOTOS

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# PRE- AND POSTCLEARING PHOTOS

## 2014-2015 SBC Reach 24 Compton Creek

Before Photos 8/21/2014 After Photos 1/14/2015

# PRE- AND POSTCLEARING PHOTOS

## 2014-2015 SBC Reach 24 Compton Creek

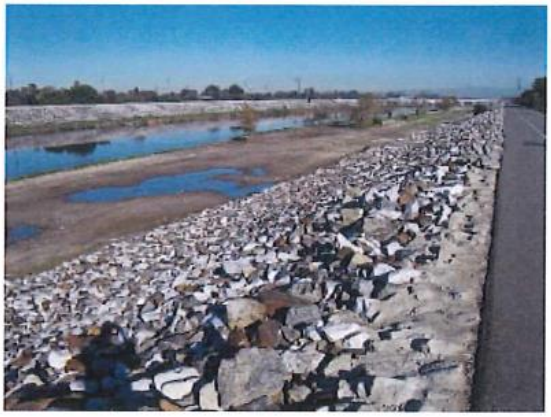
Before Photos 8/21/2014 After Photos 1/14/2015

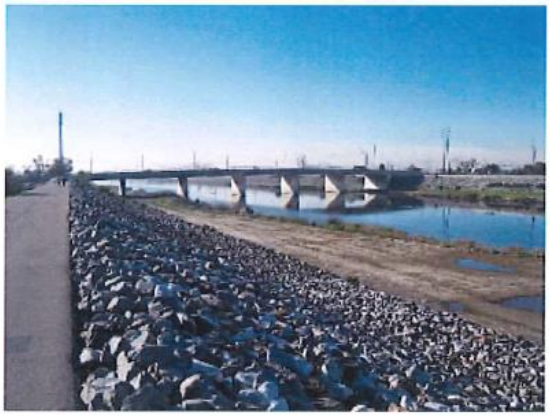
# PRE- AND POSTCLEARING PHOTOS

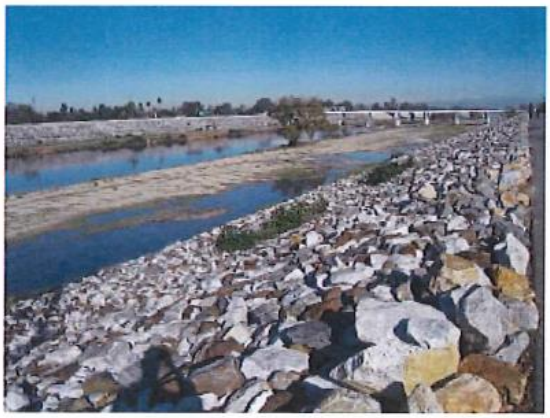
## 2014-2015 SBC Reach 25 Lower Los Angeles River

## (East/Left Bank)

Before Photos 8/21/2014 After Photos 1/14/2015





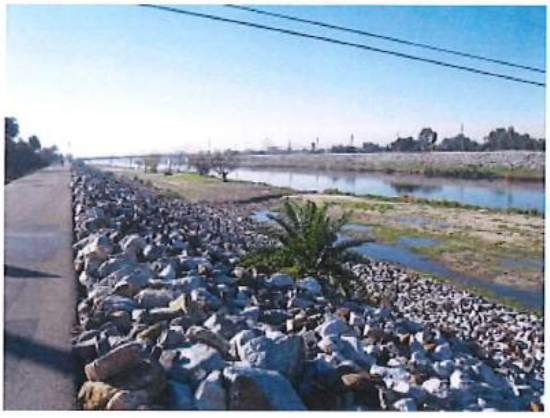


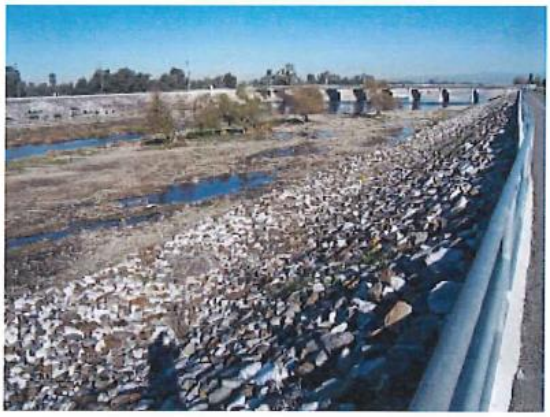
# PRE- AND POSTCLEARING PHOTOS

## 2014-2015 SBC Reach 25 Lower Los Angeles River

## (East/Left Bank)

Before Photos 8/21/2014 After Photos 1/14/2015



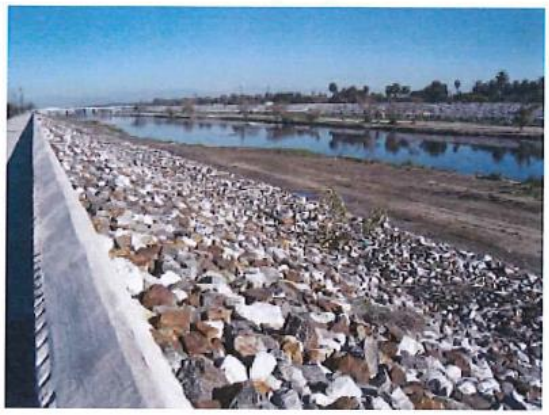


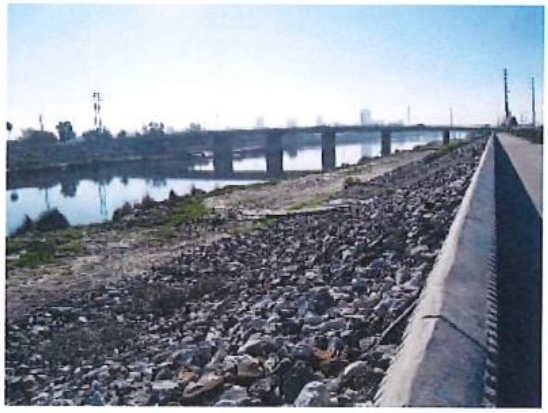
# PRE- AND POSTCLEARING PHOTOS

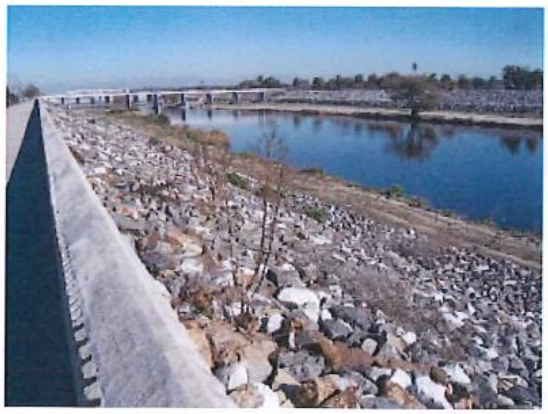
## 2014-2015 SBC Reach 25 Lower Los Angeles River

## (West/Right Bank)

Before Photos 8/21/2014 After Photos 1/14/2015





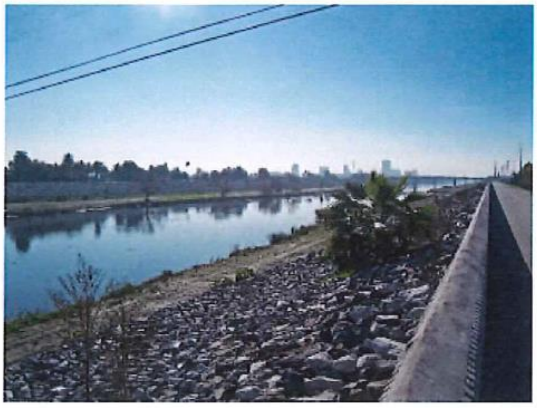


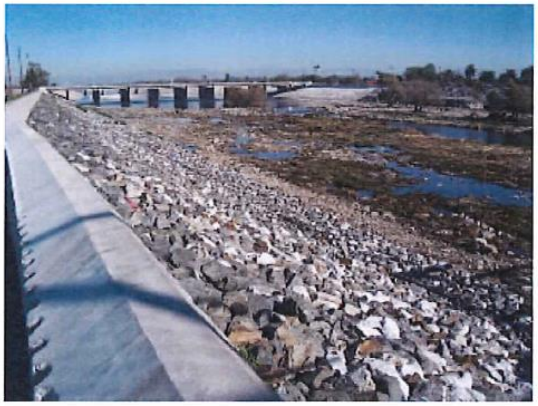
# PRE- AND POSTCLEARING PHOTOS

## 2014-2015 SBC Reach 25 Lower Los Angeles River

## (West/Right Bank)

Before Photos 8/21/2014 After Photos 1/14/2015





# PRE- AND POSTCLEARING PHOTOS

## 2015-2016 SBC Reach 24 Compton Creek

Before Photos 8/17/2015 After Photos 10/10/2015

# PRE- AND POSTCLEARING PHOTOS

## 2015-2016 SBC Reach 24 Compton Creek

Before Photos 8/17/2015

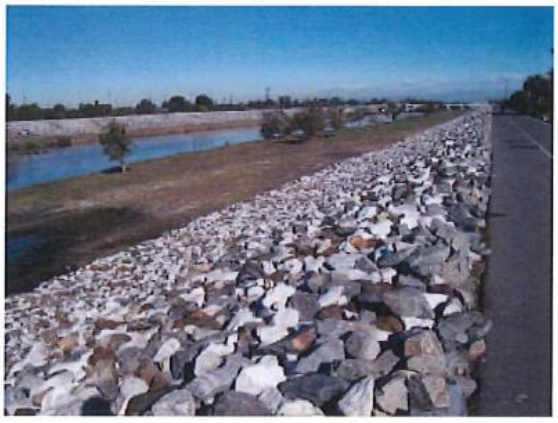
After Photos 10/10/2015

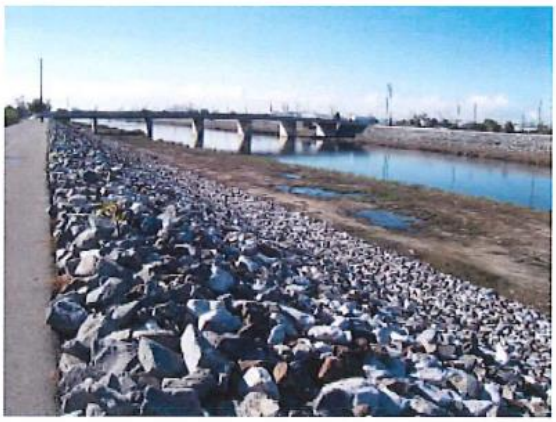
# PRE- AND POSTCLEARING PHOTOS

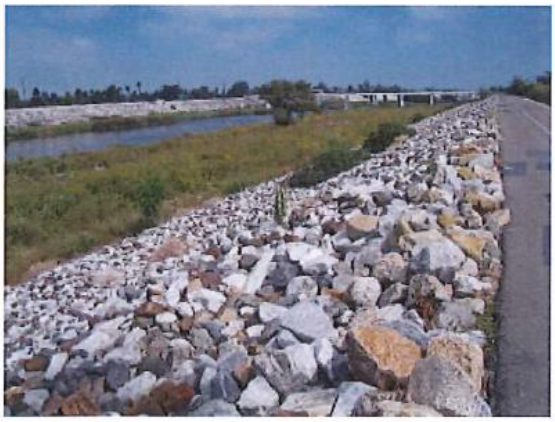
## 2015-2016 SBC Reach 25 Lower Los Angeles River

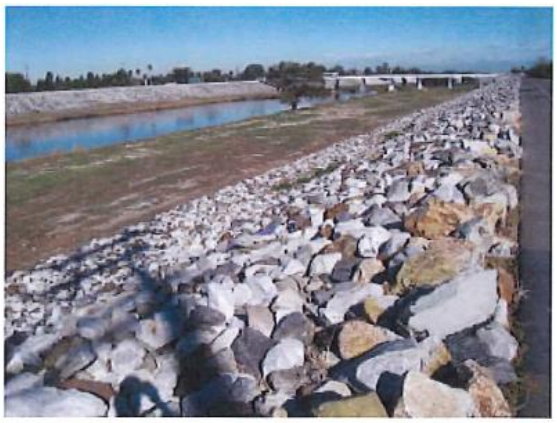
## (East/Left Bank)

Before Photos 8/17/2015 After Photos 11/04/2015







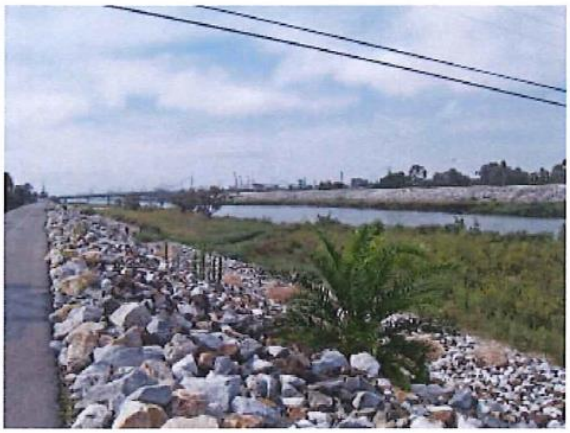


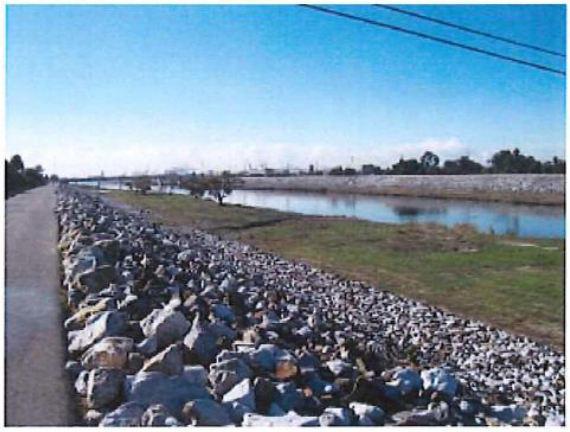
# PRE- AND POSTCLEARING PHOTOS

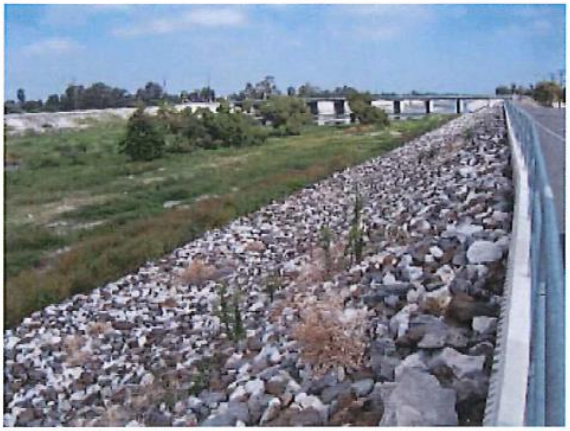
## 2015-2016 SBC Reach 25 Lower Los Angeles River

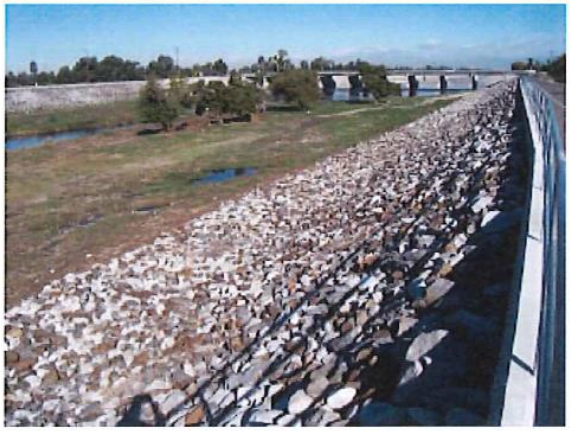
## (East/Left Bank)

Before Photos 8/17/2015 After Photos 11/04/2015







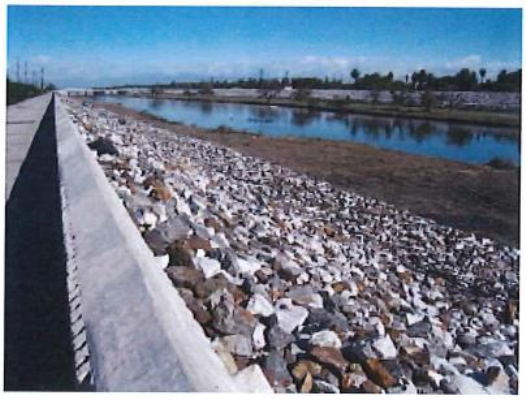
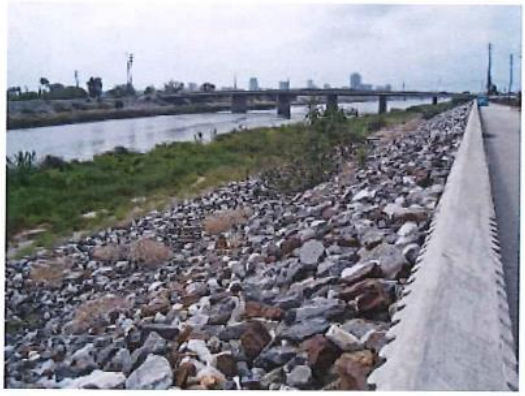


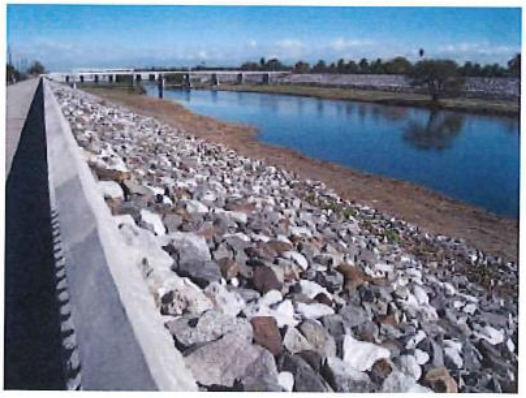
# PRE- AND POSTCLEARING PHOTOS

## 2015-2016 SBC Reach 25 Lower Los Angeles River

## (West/Right Bank)

Before Photos 8/17/2015 After Photos 11/04/2015

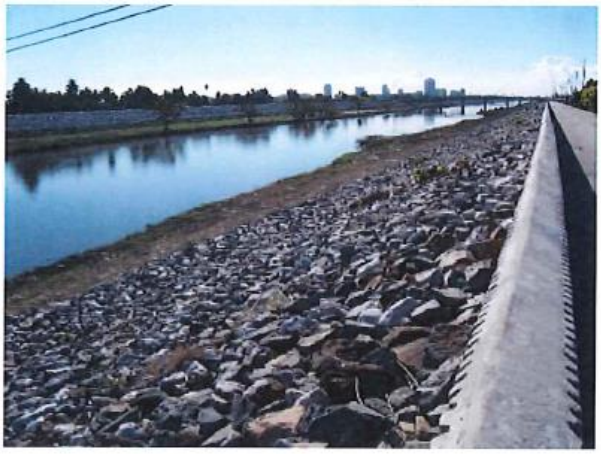



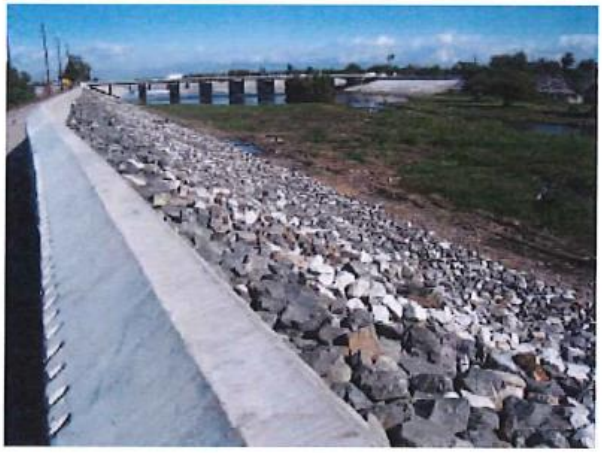
# PRE- AND POSTCLEARING PHOTOS

## 2015-2016 SBC Reach 25 Lower Los Angeles River

## (West/Right Bank)

Before Photos 8/17/2015 After Photos 11/04/2015





# ATTACHMENT G

# VEGETATION GROWTH AFTER CLEARING PHOTOS

# SBC REACH 24 & 25

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# VEGETATION GROWTH AFTER CLEARING PHOTOS

## 2015-2016 SBC Reach 24 Compton Creek

11/03/2015

2/22/2016

# VEGETATION GROWTH AFTER CLEARING PHOTOS

## 2015-2016 SBC Reach 24 Compton Creek

11/03/2015

2/22/2016

# VEGETATION GROWTH AFTER CLEARING PHOTOS

## 2015-2016 SBC Reach 24 Compton Creek

11/03/2015

2/22/2016

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# VEGETATION GROWTH AFTER CLEARING PHOTOS

## 2015-2016 SBC Reach 25 Lower Los Angeles River

10/19/2015

2/10/2016

# VEGETATION GROWTH AFTER CLEARING PHOTOS

## 2015-2016 SBC Reach 25 Lower Los Angeles River

10/19/2015

2/10/2016

# VEGETATION GROWTH AFTER CLEARING PHOTOS

## 2015-2016 SBC Reach 25 Lower Los Angeles River

10/19/2015

2/10/2016

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